

HJ

-- Statement of Related Application

This application is a divisional application of U.S. Serial No. 08/926,700
filed September 10, 1997.--

Rub 126

In The Claims

Please cancel claims 1-108 and 120-123.

The following claims are pending:

12 109. A method for transferring workpieces from a first station to a second station, comprising the steps of:

retrieving said workpieces from said first station with a robot;
flipping said workpieces over with said robot; and
placing said workpieces on said second station with said robot.

13 110. A method as claimed in claim 109, and further comprising the steps of:

retrieving said workpieces from a third station with said robot; and
placing said workpieces on said first station with said robot.

14 111. A method as claimed in claim 110, wherein said robot includes at least one workpiece gripping device for retrieving and holding said workpieces.

15 112. A method as claimed in claim 111, wherein said at least one workpiece gripping device comprises a dry end-effector for gripping dry workpieces and a wet-end effector for gripping wet workpieces

16 113. A method as claimed in claim 112, wherein said workpieces are retrieved from a tilted cassette in said first station and transferred with said dry end-effector to an index table in said second station.

17 114. A method as claimed in claim 113, wherein said third station comprises a rinsing station and a drying station, and comprising the additional step of transferring said workpieces from said rinsing station to said drying station with said wet end-effector.

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115. A method as claimed in claim 114, wherein said workpieces are retrieved from said drying station with said dry-end effector and transferred to said cassette.

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116. A method as claimed in claim 115, wherein said robot has six axes to permit movement of said end-effectors among said tilted cassette, said index table, said rinsing station and said drying station.

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117. A wafer handling system comprising a six axis robot having an operative end; a dry wafer gripping device attached to said robot operative end; and a wet wafer gripping device attached to said robot operative end.

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118. A wafer handling system as claimed in claim 117, wherein said dry wafer gripping device is a dry end-effector and said wet wafer gripping device is a wet end-effector.

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119. A wafer handling system as claimed in claim 118, wherein said dry end-effector and said wet end-effector are oriented substantially orthogonal to each other.

Please add the following claims:

23 --124. A method for robotically transferring semiconductor wafers between a plurality of stations of a machine for performing multiple operations on the wafers using a robot equipped with two end-effectors for handling wafers, the method comprising:

of machine? {transporting wafers having surface contaminants from a first station of the machine to another location with a first end-effector of a robot; and

transporting dry wafers with a second end-effector of the robot from a second station of the machine to another location;

{whereby use of the robot equipped with two end effectors reduces particulate generation in an enclosed environment surrounding the machine, relative to particulates generated with a robot adapted to use one end effector at a time that is replaced for each of the transporting operations, and minimizes transfer of contaminants from wet wafers to dry wafers through the robotic handling.}